In

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,935	03/07/2001	Iris M. Plaxton	SC11641TS	5642

			EXAMINER
23125	7590	01/09/2006	TANG, KENNETH

FREESCALE SEMICONDUCTOR, INC.
LAW DEPARTMENT
7700 WEST PARMER LANE MD:TX32/PL02
AUSTIN, TX 78729

ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/800,935	PLAXTON ET AL.
		Examiner	Art Unit
		Kenneth Tang	2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2005*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 23-52* is/are rejected.

7)☒ Claim(s) *22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the Amendment filed on 8/17/05. Applicant's arguments

have been fully considered but are moot in view of the new grounds of rejections.

2.   Claims 1-52 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 44-50 and 52 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention:

   a.   In claim 44, the claim lists four sets of instructions but lacks coordination or any

   relation to each of the sets, and therefore, it is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-4, 13-15, 17-18, 27-29, 32-33, 35-41, 43, and 51 are rejected under 35

U.S.C. 102(e) as being anticipated by Holiday, Jr. (hereinafter Holiday) (US 6,272,674 B1).

5.   As to claim 1, Holiday teaches a method for pre-internalizing program files, comprising:

receiving a program file *(loading application program into the memory) (Fig. 1, items*

120 and 200 and col. 7, lines 45-48);

pre-internalizing the program file of a virtual machine to create a reusable executable

image of the program file *(creating an image that can be reused) (see Abstract)*; and

storing the reusable executable image in a permanent memory *(loader environement 200*

in JVM internal memory 106 in Fig. 1, col. 9, lines 4-20), wherein the reusable executable image

is capable of being executed by any subsequent invocation of the virtual machine without being

internalized prior to execution *(using the image allows to bypass steps 400-418 and 422-424 in*

Fig. 4, etc.) (col. 9, lines 4-20).

6.

7.   As to claim 2, Holiday teaches wherein pre-internalizing is performed by the virtual

machine *(JVM, col. 9, lines 4-20)*.

8.   As to claim 3, Holiday teaches wherein pre-internalizing is performed by a first device

(Fig. 1, 100).

9.   As to claim 4, Holiday teaches wherein the virtual machine executes on the first device

(JVM, col. 9, lines 4-20).

10.   As to claim 13, Holiday teaches changing memory location of the reusable executable

image and updating memory addresses within the reusable executable image to reflect a new

memory position *(Fig. 4, items 412).*

11.   As to claim 14, Holiday teaches moving the reusable executable image to a different

location within the permanent memory to create a second reusable executable image *(col. 9, lines*

4-20).

12.   As to claim 15, Holiday teaches updating memory addresses within the second reusable

executable image *(col. 9, lines 4-20, Fig. 4, items 412).*

13.   As to claim 17, Holiday teaches wherein the reusable executable image is capable of

being executed directly from the permanent memory *(col. 9, lines 4-20).*

14.   As to claim 18, Holiday teaches wherein after storing the reusable executable image, the

reusable executable image may be executed without referencing the program file *(col. 9, lines 4-*

20).

15.   As to claim 27, Holiday teaches a device comprising:

a processor for executing instructions *(processor in computer/JVM, Fig. 1, 100)*;

a first permanent memory coupled to the processor for providing instructions and data to the processor *(JVM internal memory 106, Fig. 1)*, the first permanent memory providing:

a first set of one or more instructions, the first set of one or more instructions when executed by the processor implements receipt of a program file *(Fig. 1, 120)*;

a second set of one or more instructions, the second set of one or more instructions when executed by the processor implements pre-internalizing the program file into a native memory structure of a virtual machine to create a reusable executable image of the program file *(creating an image that can be reused) (see Abstract, col. 9, lines 4-20)*; and

a third set of one or more instructions, the third set of one or more instructions when executed by the processor implements storing the reusable executable image in the first permanent memory *(loader environement 200 in JVM internal memory 106 in Fig. 1, col. 9, lines 4-20)*, wherein the reusable executable image is capable of being executed by the virtual machine without any internalization prior to execution, thereby subsequently avoiding internalizing the program file for subsequent program executions *(using the image allows to bypass steps 400-418 and 422-424 in Fig. 4, etc.) (col. 9, lines 4-20)*.

16.   As to claim 28, it is rejected for the same reasons as stated in the rejection of claim 9.

17.   As to claim 29, it is rejected for the same reasons as stated in the rejection of claim 7.

18.   As to claim 32, it is rejected for the same reasons as stated in the rejection of claims 7 and

8.

19.   As to claim 33, it is rejected for the same reasons as stated in the rejection of claim 11.

20.   As to claim 35, it is rejected for the same reasons as stated in the rejection of claim 15.

21.   As to claim 36, it is rejected for the same reasons as stated in the rejection of claim 14.

22.   As to claim 37, Holiday teaches a device capable of executing a virtual machine, the

device comprising:

a processor for executing instructions *(processor in computer/JVM, Fig. 1, 100)*; and

a permanent memory coupled to the processor for providing instructions and data to the

processor *(JVM internal memory 106, Fig. 1)*, the permanent memory providing a first set of one

or more instructions *(Fig. 1, 120)*, the first set of one or more instructions when executed by the

processor storing a reusable executable image in the permanent memory, wherein the reusable

executable image was previously created by pre-internalizing a program file into a native

memory structure of the virtual machine and the permanent memory comprising the virtual

machine wherein the virtual machine is capable of executing the reusable executable image

without any internalization of the reusable executable image prior to execution *(creating an*

image that can be reused) (see Abstract, col. 9, lines 4-20), thereby subsequently avoiding

internalizing the program file for subsequent program execution *(using the image allows to bypass steps 400-418 and 422-424 in Fig. 4, etc.) (col. 9, lines 4-20)*.

23.   As to claim 38, it is rejected for the same reasons as stated in the rejection of claim 14 and 15.

24.   As to claim 39, it is rejected for the same reasons as stated in the rejection of claim 17.

25.   As to claim 40, it is rejected for the same reasons as stated in the rejection of claim 16.

26.   As to claim 41, it is rejected for the same reasons as stated in the rejection of claim 18.

27.   As to claim 43, Chan teaches wherein the device is a server *(col. 7, lines 1-16)*.

28.   As to claim 51, it is rejected for the same reasons as stated in the rejection of claim 15.

29.   **Claims 5-6, 8-12, 30-31, 34, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holiday, Jr. (hereinafter Holiday) (US 6,272,674 B1) in view of Tremblay et al. (hereinafter Tremblay) (US 5,925,123).**

30. . As to claim 5, Holiday fails to explicitly teach wherein the first device is a portable

device. However, Tremblay teaches the first well suited for being portable *(col. 6, lines 22-42)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine Tremblay with Holiday because it would increase performance *(col. 6, lines 22-42)*.

31. As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 5.

32. As to claims 8 and 12, Holiday is silent wherein the second (not the first) device natively

executes the virtual machine. However, Tremblay teaches a second processor executing natively

in the virtual machine *(col. 5, lines 40-53)*. It would have been obvious to one of ordinary skill

in the art at the time the invention was made to combine Tremblay with Holiday because it

enhances the virtual machine by effective mapping in the instruction space *(col. 5, lines 40-53)*.

33. As to claim 9, Holiday teaches wherein the first device natively executes the virtual

machine *(col. 7, lines 1-7)*.

34. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 5.

35. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 5.

36. As to claim 30, it is rejected for the same reasons as stated in the rejection of claim 5.

37.   As to claim 31, it is rejected for the same reasons as stated in the rejection of claim 6.

38.   As to claim 34, it is rejected for the same reasons as stated in the rejection of claim 6.

39.   As to claim 42, it is rejected for the same reasons as stated in the rejection of claim 6.

40.   Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Holiday, Jr. (hereinafter Holiday) (US 6,272,674 B1).

41.   As to claim 7, Holiday teaches wherein the reusable executable image is stored in a

permanent memory. Holiday is silent that the memory is of a second device.   However, it would

have been obvious to one of ordinary skill in the art at the time the invention was made to store

data in another memory device because it would free up the capacity of the memory of the

main/first device if the data didn't have to be stored there.

42.   As to claim 16, Holiday teaches wherein the reusable executable image is stored in a

permanent memory. Holiday is silent on removing the reusable executable image from the

permanent memory. However, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to remove or delete the image from memory when it is no

longer needed to increase the memory capacity.

43.   **Claims 19-21 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holiday, Jr. (hereinafter Holiday) (US 6,272,674 B1) in view of Hoffberg et al. (hereinafter Hoffberg) (US 6,400,996 B1),**

44.   As to claim 19, Holiday teaches a process for operating a virtual machine having a normal mode of operation and a pre-internalization mode of operation, comprising:

selecting a program file from a set of available program files to identify a selected program file *(Fig. 1, 120 and Fig. 2, 120, 122, 124, etc.)*;

determining whether a reusable pre-internalized image of the selected program file has been created, wherein the reusable pre-internalized image is capable of being executed without any further internalization of the selected program file prior to execution by any subsequent invocation of the virtual machine *(col. 9, lines 4-20)*;

creating the reusable pre-internalized image of the selected program file *(creating an image that can be reused) (see Abstract, col. 9, lines 4-20)*; and

storing the reusable pre-internalized image of the selected program file into a permanent memory *(loader environement 200 in JVM internal memory 106 in Fig. 1, col. 9, lines 4-20)*, thereby avoiding subsequent internalization of the selected program file for all subsequent program executions *(using the image allows to bypass steps 400-418 and 422-424 in Fig. 4, etc.) (col. 9, lines 4-20)*.

45. · Holiday teaches all the features of the claimed invention, however, is silent on having separate modes. However, Hoffberg teaches a virtual machine device that has a variety of modes

that is performed in response by a user *(col. 150, lines 13-38, col. 151, lines 34-52, etc.).* It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Hoffberg with Holiday because it would improve the control and functionality of the system *(col. 150, lines 13-38).*

46.   As to claim 20, Holiday *(col. 9, lines 4-20)* and Hoffberg *(col. 150, lines 13-38, col. 151, lines 34-52, etc.)* teaches the process of claim 19 further comprising if a reusable pre-internalized image of the selected program file has not been created, selectively operating the virtual machine in the pre-internalization mode is performed in response to a user request.

47.   As to claim 21, Holiday *(col. 9, lines 4-20)* and Hoffberg *(col. 150, lines 13-38, col. 151, lines 34-52, etc.)* teaches wherein if the reusable pre-internalized image of the selected program file has not been created, automatically operating the virtual machine in the pre-internalization mode.

48.   As to claim 23, it is rejected for the same reasons as stated in the rejection of claims 4 and 20.

49.   As to claim 24, it is rejected for the same reasons as stated in the rejection of claim 20.

50.   As to claim 25, it is rejected for the same reasons as stated in the rejection of claim 4.

51.   **Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holiday, Jr.**

(hereinafter Holiday) (US 6,272,674 B1) in view of Hoffberg et al. (hereinafter Hoffberg)

(US 6,400,996 B1), and further in view of Tremblay et al. (hereinafter Tremblay) (US

5,925,123).

52.   As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 5

regarding the reference of Tremblay.

Response to Arguments

53.   Applicant's arguments have been fully considered but are moot in view of the new

grounds of rejections.

Allowable Subject Matter

54.   Claim 22 is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

55.   Claims 44-50 and 52 would be allowable if rewritten or amended to overcome the

rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
12/22/05

SUPERVISORY PATENT EXAMINER